

REMARKS

This is filed in response to the Office Action dated February 22, 2002, rejecting the claimed invention as unpatentable over Paddock in view of Tagami, and unpatentable over Paddock in view of Tagami and further in view of Ogura, all as cited below. Additionally, the Office Action rejects one claim under 35 U.S.C. 112 and takes objection to the drawings under 37 C.F.R. 1.83(a).

Applicant respectfully requests reconsideration and withdrawal of the rejections and objections in view of the amendments above and the remarks below.

Objections to the Drawings

The drawings stand rejected under 37 C.F.R. 1.83(a) as not showing every feature specified in the claims. Enclosed are mark-up drawings indicating amendments responsive to the objections. Clean copies of these drawings as amended are also included. No new matter has been added: each amendment is fully supported by the specification.

Specifically, FIG. 3b is amended to show a magnetic fluid 33a 33b disposed about the coils 32a 32b. This is in accord with the specification as filed at page 9, lines 12-15. The specification has been amended to add element numbers 33a and 33b. No new matter is added.

FIG. 5 is amended to show a class D amplifier within the console. This is in accord with the specification as filed at page 10 line 31, line 15, and also at page 1 lines 9-16. The specification has been amended to add the element number 52. No new matter has been added.

Claim Rejection under 35 U.S.C. §112

Claim 16 stands rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

The Examiner asserts that clarification is required regarding the structure and usage of the class D amplifier and docking system.

Claim 16 now refers to a docking recess rather than a docking system. The docking recess is described in the specification on page 11 lines 9-10 and indicated as element 42 in FIG. 5. The specification also describes the structure and use of a class D amplifier on page 10 lines 26-35 and page 11 lines 11-16, and as is now shown in FIG. 5.

Applicant kindly requests withdrawal of these objections, and reconsideration therewith.

Claim Rejections under 35 U.S.C. §103

Claims 1-7 and 10-14 stand rejected as being unpatentable over Paddock, US Patent No. 5,604,815, issued February 18, 1997 and entitled, "Single Magnet Audio Transducer And Method Of Manufacturing," hereinafter "Paddock"; in view of Tagami, US Patent No. 6,269,168, issued July 31, 2001 and entitled, "Speaker Apparatus," hereinafter "Tagami". Further, claims 8 and 9 stand rejected as being unpatentable over Paddock in view of Tagami and in further view of Ogura, US Patent No. 5,744,761, issued April 28, 1998 and entitled, "Diaphragm-Edge Integral Moldings For Speakers And Acoustic Transducers Comprising Same," hereinafter, "Ogura".

Independent claim 1 recites a loudspeaker having, inter alia, a magnet with a central aperture and a voice coil having a cylindrical polymer bobbin with at least one flexible arm extending therefrom. Lead-in conductors are embedded in the arm(s), and wire windings extend around the bobbin. The arms (and embedded lead-in conductors) extend toward the central aperture to provide flexible connections to an input drive signal.

The principal reference, Paddock, is directed toward an audio transducer having a single magnet and a voice coil with wire windings. The windings are etched on a flexible substrate. Holes or channels formed in an exterior frame and supporting bridge provide clearance for leads that are connected to the windings. There is no central aperture, nor

does any portion of the substrate, windings or leads extend toward such an aperture. Instead, the leads extend outwardly from the voice coil through the aforementioned holes or channels.

Tagami does not cure the deficiencies of Paddock. Tagami utilizes a braided cable to extend wire windings of a voice coil outwardly from a perimeter of a voice coil through a hole in an exterior frame to an external connector. Like Paddock, but unlike the claimed invention, there is no central aperture and no conductor or other structure that extends toward such an aperture.

Claims 1-7 and 10-14 as well as claims 8 and 9 are dependent on claim 1; each contains all the features and limitations therefrom. Claim 1 is patentable over the cited references for the reasons above, among others. Each of those dependent claims is likewise allowable over the cited art. Therefore, for these reasons, and others, Applicant kindly requests reconsideration of these claims, and allowance forthwith.

Independent claims 15 and 17 stand rejected as being unpatentable over Ogura in view of Tagami and in further view of Plummer, U.S. Patent 4,799,264, issued January 17, 1989 and entitled, "Speaker System," hereinafter "Plummer".

Independent claims 15 and 17 both recite at least a loudspeaker having a magnet with a central aperture, and a voice coil having a cylindrical polymer bobbin with at least one flexible arm extending therefrom. Lead-in conductors are disposed on the arms, and wire windings extend around the bobbin. The arms extend toward the central aperture to provide flexible connection to an input drive signal. The diaphragm has a diameter of between about 15-40 mm and a polymer coating effective to suspend the diaphragm with a resonance below about 200 Hz. Claim 15 further recites a console housing a subwoofer effective with one or more speakers as recited above.

Ogura is directed toward speakers comprising a diaphragm made of a tightly woven synthetic polymer fiber cloth substrate. A polymer resin is at least partially impregnated into the cloth, and an edge portion with a flexible polymer material also

impregnated therein.

As above, there is no teaching or suggestion in either Ogura or Tagami of a central aperture, nor of a conductor or other structure that extends toward such an aperture.

Plummer does nothing to remedy the missing elements of Ogura and Tagami. Plummer is directed to a speaker enclosure, and the mounting of speakers therein. It does not teach or suggest any construction of such speakers.

Claim 17 is allowable for at least the same reasons as claim 15, namely, that none of the cited art in any combination renders claim 17 as either anticipated or obvious.

Respectfully, Applicant requests reconsideration of claim 15 and 17 leading to allowance thereof.

Conclusion

In view of the above, Applicants respectfully submit that the claimed invention is patentably distinct from the cited art. Applicants therefore kindly request the Examiner to withdraw all rejections, and request reconsideration of the claims leading to allowance. The Examiner is also kindly requested to contact the undersigned if such would expedite examination and allowance of the application.

Respectfully submitted,

NUTTER, McLENNEN & FISH, LLP

A large, stylized handwritten signature in black ink, likely belonging to David J. Powsner, is written over a horizontal line.

David J. Powsner
Reg. No. 31,868
Attorney for Applicants

Date: 8/22/02

World Trade Center West
155 Seaport Boulevard
Boston, MA 02210-2604
Tel: (617)439-2717
Fax: (617)310-9717

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